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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/608,229

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Jae-Yong Park

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EXAMINER

HODGES, MATTHEW P

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 12/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/608,229

Applicant(s)

PARK ET AL.

Examiner

Matt P Hodges

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-15 is/are rejected.
- 7) ☒ Claim(s) 9 and 16-20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/15/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 1 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 4 of copending Application No. 10/716,438. Although the conflicting claims are not identical, they are not patentably distinct from each other because the pad of the current application is synonymous with the common electrode of the copending application.

Claim 2 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 6 of copending Application No. 10/716,438. Although the conflicting claims are not identical, they are not patentably distinct from each other because the pad of the current application is synonymous with the common

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electrode of the copending application and it would have been an obvious variation to use the same material as the first connection electrode with the second connection electrode.

Claim 3 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 7 of copending Application No.

10/716,438. Although the conflicting claims are not identical, they are not patentably distinct from each other because the pad of the current application is synonymous with the common electrode of the copending application and it would have been an obvious variation to use the same material as the first connection electrode with the second connection electrode.

Claim 4 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 8 of copending Application No.

10/716,438. Although the conflicting claims are not identical, they are not patentably distinct from each other because the pad of the current application is synonymous with the common electrode of the copending application and it would have been an obvious variation to use the same material as the first connection electrode with the second connection electrode.

Claim 5 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 9 of copending Application No.

10/716,438. Although the conflicting claims are not identical, they are not patentably distinct from each other because the pad of the current application is synonymous with the common electrode of the copending application and it would have been an obvious variation to use the same material as the first connection electrode with the second connection electrode.

Claim 6 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 10 of copending Application No.

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10/716,438. Although the conflicting claims are not identical, they are not patentably distinct from each other because the pad of the current application is synonymous with the common electrode of the copending application and it would have been an obvious variation to use the same material as the first connection electrode with the second connection electrode.

Claim 7 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 11 of copending Application No.

10/716,438. Although the conflicting claims are not identical, they are not patentably distinct from each other because the pad of the current application is synonymous with the common electrode of the copending application and it would have been an obvious variation to use the same material as the first connection electrode with the second connection electrode.

Claim 8 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 12 of copending Application No.

10/716,438. Although the conflicting claims are not identical, they are not patentably distinct from each other because the pad of the current application is synonymous with the common electrode of the copending application and it would have been an obvious variation to use the same material as the first connection electrode with the second connection electrode.

Claim 10 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 2 of copending Application No.

10/716,438. Although the conflicting claims are not identical, they are not patentably distinct from each other because the pad of the current application is synonymous with the common electrode of the copending application and it would have been an obvious variation to use the same material as the first connection electrode with the second connection electrode.

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Claim 11 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 5 of copending Application No. 10/716,438. Although the conflicting claims are not identical, they are not patentably distinct from each other because the pad of the current application is synonymous with the common electrode of the copending application and it would have been an obvious variation to use the same material as the first connection electrode with the second connection electrode.

Claim 12 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 27 of copending Application No. 10/716,438. Although the conflicting claims are not identical, they are not patentably distinct from each other because the pad of the current application is synonymous with the common electrode of the copending application.

Claim 13 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 27 of copending Application No. 10/716,438. Although the conflicting claims are not identical, they are not patentably distinct from each other because the pad of the current application is synonymous with the common electrode of the copending application and the interchangeable use of anode and cathode materials is well established in the art of OLEDs.

Claim 14 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 27 of copending Application No. 10/716,438. Although the conflicting claims are not identical, they are not patentably distinct from each other because the pad of the current application is synonymous with the common electrode of the copending application and the interchangeable use of anode and cathode

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materials is well established in the art of OLEDs. Further the first electrode would necessarily be transparent thus ITO would be an obvious selection.

Claim 15 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 27 of copending Application No. 10/716,438. Although the conflicting claims are not identical, they are not patentably distinct from each other because the pad of the current application is synonymous with the common electrode of the copending application and the interchangeable use of anode and cathode materials is well established in the art of OLEDs. Further the use of Al as a cathode material is widely known in the art.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5-8, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gourlay (WO 02/078101 A1).

Regarding claim 1, Gourlay discloses (See figure 2) an organic EL display device including a first substrate (15), a second substrate (7), a first electrode (8) coated on the second substrate, an Organic EL layer (10) coated on the first electrode, a second electrode (12) coated

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on the organic EL layer, first connection electrode (17) coated between the second electrode and the drain electrode (16), and a sealant (18). Further, Gourlay discloses the use of an active matrix pixel circuitry on the bottom substrate. Though not explicitly stated, the active matrix pixel circuitry would necessarily have a driving thin film transistor with one end connected to the drain electrode in order for the device to operate. Gourlay does not appear to specify the circuit elements for powering the first electrode and the connection of that element to the first electrode. However Gourlay does specify that all electrical connections are made between the first and second substrates. Further power for the first electrode would advantageously come for a contact point outside of the display area so as not to interfere with the active elements or cause unnecessary capacitance. For these reasons it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a contact pad on the first substrate that is connected with a second connection electrode structure to the first electrode in the device as disclosed by Gourlay.

Regarding claim 2, Gourlay disclose the use of polycrystalline silicon on the active layer. (Page 6 lines 10-15).

Regarding claim 3, a power line is necessarily provided to the driving thin film transistor in an active matrix OLED.

Regarding claims 5-7, Gourlay disclose the use of ITO for the first electrode or anode and Al for the second electrode or cathode. (Page 8 lines 10-15 and lines 26-33).

Regarding claim 8, the sealant material is formed throughout the cavity and as such surrounds the second connection electrode structure.

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Regarding claim 11, Gourlay discloses (see figure 3) the use of several electrodes (13 and 11a) between the first or second electrode and the connection electrode.

Allowable Subject Matter

Claims 9 and 16-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 9, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 9, and specifically comprising the limitation of an organic EL display device including a first substrate, a second substrate, a first electrode coated on the second substrate, an Organic EL layer coated on the first electrode, a second electrode coated on the organic EL layer, a driving thin film transistor formed on the back substrate and including an active layer, gate electrode, source electrode, and drain electrode, first connection electrode coated between the second electrode and the drain electrode, first pad disposed at the peripheral region on an inner surface of the first substrate, a second connection electrode structure formed between the first electrode and the pad, and a sealant. Where the second connection electrode structure is disposed on the exterior of the sealant.

Regarding claim 16, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 16, and specifically comprising the limitation of A method of fabricating an organic electroluminescent device including forming a first

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insulating layer on a first substrate having a plurality of pixel regions and a peripheral region surrounding the plurality of pixel regions; forming an active layer on the first insulating layer at each of the plurality of pixel regions, the active layer including polycrystalline silicon and having source and drain regions; forming a second insulating layer on the active layer; forming a gate electrode on the second insulating layer over the active layer; forming a third insulating layer on the gate electrode, the third insulating layer having a first contact hole exposing the source region and a second contact hole exposing the drain region; forming source and drain electrodes and a first pad on the third insulating layer, the source electrode being connected to the source region through the first contact hole, the drain electrode being connected to the drain region through the second electrode, and the first pad being disposed at the peripheral region; forming a fourth insulating layer on the source and drain electrodes and the first pad, the fourth insulating layer having a third contact hole exposing the drain electrode, and fourth and fifth contact holes exposing the first pad; forming first and second connection electrodes on the fourth insulating layer, the first connection pattern being connected to the drain electrode through third contact hole, the second connection electrode being connected to the first pad through the fourth contact hole; forming a first electrode on a second substrate having a plurality of pixel regions and a peripheral region surrounding the plurality of pixel regions; forming an organic emission layer on the first electrode; forming a second electrode on the organic emission layer at each of the plurality of pixel regions; and attaching the first and second substrates together with a sealant material, where the first connection electrode contacts the second electrode, and the second connection electrode contacts the first electrode and where there is formed a polycrystalline

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silicon pattern connected to the gate electrode and a capacitor electrode over the pattern forming a storage capacitor.

Regarding claim 17, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 17, and specifically comprising the limitation of A method of fabricating an organic electroluminescent device including forming a first insulating layer on a first substrate having a plurality of pixel regions and a peripheral region surrounding the plurality of pixel regions; forming an active layer on the first insulating layer at each of the plurality of pixel regions, the active layer including polycrystalline silicon and having source and drain regions; forming a second insulating layer on the active layer; forming a gate electrode on the second insulating layer over the active layer; forming a third insulating layer on the gate electrode, the third insulating layer having a first contact hole exposing the source region and a second contact hole exposing the drain region; forming source and drain electrodes and a first pad on the third insulating layer, the source electrode being connected to the source region through the first contact hole, the drain electrode being connected to the drain region through the second electrode, and the first pad being disposed at the peripheral region; forming a fourth insulating layer on the source and drain electrodes and the first pad, the fourth insulating layer having a third contact hole exposing the drain electrode, and fourth and fifth contact holes exposing the first pad; forming first and second connection electrodes on the fourth insulating layer, the first connection pattern being connected to the drain electrode through third contact hole, the second connection electrode being connected to the first pad through the fourth contact hole; forming a first electrode on a second substrate having a plurality of pixel regions and a peripheral region surrounding the plurality of pixel regions; forming an organic emission layer

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on the first electrode; forming a second electrode on the organic emission layer at each of the plurality of pixel regions; and attaching the first and second substrates together with a sealant material, where the first connection electrode contacts the second electrode, and the second connection electrode contacts the first electrode and where the second connection electrode is formed inside the sealant

Regarding claim 18, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 18, and specifically comprising the limitation of A method of fabricating an organic electroluminescent device including forming a first insulating layer on a first substrate having a plurality of pixel regions and a peripheral region surrounding the plurality of pixel regions; forming an active layer on the first insulating layer at each of the plurality of pixel regions, the active layer including polycrystalline silicon and having source and drain regions; forming a second insulating layer on the active layer; forming a gate electrode on the second insulating layer over the active layer; forming a third insulating layer on the gate electrode, the third insulating layer having a first contact hole exposing the source region and a second contact hole exposing the drain region; forming source and drain electrodes and a first pad on the third insulating layer, the source electrode being connected to the source region through the first contact hole, the drain electrode being connected to the drain region through the second electrode, and the first pad being disposed at the peripheral region; forming a fourth insulating layer on the source and drain electrodes and the first pad, the fourth insulating layer having a third contact hole exposing the drain electrode, and fourth and fifth contact holes exposing the first pad; forming first and second connection electrodes on the fourth insulating layer, the first connection pattern being connected to the drain electrode through third contact

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hole, the second connection electrode being connected to the first pad through the fourth contact hole; forming a first electrode on a second substrate having a plurality of pixel regions and a peripheral region surrounding the plurality of pixel regions; forming an organic emission layer on the first electrode; forming a second electrode on the organic emission layer at each of the plurality of pixel regions; and attaching the first and second substrates together with a sealant material, where the first connection electrode contacts the second electrode, and the second connection electrode contacts the first electrode and where the second connection electrode is formed outside the sealant

Regarding claim 19, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 19, and specifically comprising the limitation of A method of fabricating an organic electroluminescent device including forming a first insulating layer on a first substrate having a plurality of pixel regions and a peripheral region surrounding the plurality of pixel regions; forming an active layer on the first insulating layer at each of the plurality of pixel regions, the active layer including polycrystalline silicon and having source and drain regions; forming a second insulating layer on the active layer; forming a gate electrode on the second insulating layer over the active layer; forming a third insulating layer on the gate electrode, the third insulating layer having a first contact hole exposing the source region and a second contact hole exposing the drain region; forming source and drain electrodes and a first pad on the third insulating layer, the source electrode being connected to the source region through the first contact hole, the drain electrode being connected to the drain region through the second electrode, and the first pad being disposed at the peripheral region; forming a fourth insulating layer on the source and drain electrodes and the first pad, the fourth insulating layer

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having a third contact hole exposing the drain electrode, and fourth and fifth contact holes exposing the first pad; forming first and second connection electrodes on the fourth insulating layer, the first connection pattern being connected to the drain electrode through third contact hole, the second connection electrode being connected to the first pad through the fourth contact hole; forming a first electrode on a second substrate having a plurality of pixel regions and a peripheral region surrounding the plurality of pixel regions; forming an organic emission layer on the first electrode; forming a second electrode on the organic emission layer at each of the plurality of pixel regions; and attaching the first and second substrates together with a sealant material, where the first connection electrode contacts the second electrode, and the second connection electrode contacts the first electrode and where there are formed a plurality of first auxiliary electrodes between the first electrode and the second substrate.

Regarding claim 20, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 20, and specifically comprising the limitation of A method of fabricating an organic electroluminescent device including forming a first insulating layer on a first substrate having a plurality of pixel regions and a peripheral region surrounding the plurality of pixel regions; forming an active layer on the first insulating layer at each of the plurality of pixel regions, the active layer including polycrystalline silicon and having source and drain regions; forming a second insulating layer on the active layer; forming a gate electrode on the second insulating layer over the active layer; forming a third insulating layer on the gate electrode, the third insulating layer having a first contact hole exposing the source region and a second contact hole exposing the drain region; forming source and drain electrodes and a first pad on the third insulating layer, the source electrode being connected to the source region

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through the first contact hole, the drain electrode being connected to the drain region through the second electrode, and the first pad being disposed at the peripheral region; forming a fourth insulating layer on the source and drain electrodes and the first pad, the fourth insulating layer having a third contact hole exposing the drain electrode, and fourth and fifth contact holes exposing the first pad; forming first and second connection electrodes on the fourth insulating layer, the first connection pattern being connected to the drain electrode through third contact hole, the second connection electrode being connected to the first pad through the fourth contact hole; forming a first electrode on a second substrate having a plurality of pixel regions and a peripheral region surrounding the plurality of pixel regions; forming an organic emission layer on the first electrode; forming a second electrode on the organic emission layer at each of the plurality of pixel regions; and attaching the first and second substrates together with a sealant material, where the first connection electrode contacts the second electrode, and the second connection electrode contacts the first electrode and where there is formed a second auxiliary electrode formed between the first electrode and the second connection electrode. The second auxiliary electrode is formed from the same material as the second electrode.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shimoda et al. (US 2002/0158577 A1) discloses the use of an active matrix bottom substrate and light emitting top substrate joined together after forming.

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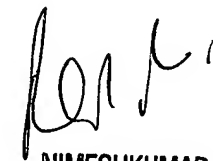
Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matt P Hodges whose telephone number is (571) 272-2454. The examiner can normally be reached on 7:30 AM to 4:00 PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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